

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 812 779 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
07.01.1998 Bulletin 1998/02

(51) Int. Cl.⁶: **B65D 65/42**, B32B 27/00,
C23C 14/08, C23C 14/10

(43) Date of publication A2:
17.12.1997 Bulletin 1997/51

(21) Application number: 97108878.6

(22) Date of filing: 27.12.1992

(84) Designated Contracting States:
DE

(30) Priority: 26.12.1991 JP 359629/91
13.01.1992 JP 24578/92
06.02.1992 JP 56940/92

(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
92122021.6 / 0 550 039

(71) Applicant:
Toyo Boseki Kabushiki Kaisha
Osaka-shi, Osaka-fu (JP)

(72) Inventors:
• Matsuda, Shusei
Inuyama-shi, Aichi-ken 484 (JP)
• Iseki, Kiyoshi
Ohtsu-shi, Shiga-ken (JP)
• Morihara, Yoshiharu
Ohtsu-shi, Shiga-ken (JP)

- Kontani, Toru
Ohtsu-shi, Shiga-ken (JP)
- Oya, Toshiyuki
Ohtsu-shi, Shiga-ken (JP)
- Uno, Toshio
Ohtsu-shi, Shiga-ken (JP)
- Harima, Teizo
c/o Toyo Boseki K.K., Res. Center
Ohtsu-shi, Shiga-ken (JP)
- Kobe, Hideomi
Ohtsu-shi, Shiga-ken (JP)
- Yamada, Yozo
Ohtsu-shi, Shiga-ken (JP)

(74) Representative:
Weber, Thomas, Dr.Dipl.-Chem. et al
Patentanwälte
von Kreisler-Selting-Werner,
Postfach 10 22 41
50462 Köln (DE)

(54) A gas barrier film

(57) The present invention provides a gas barrier film including a plastic film and a thin film which is made of a composition containing an oxide as a main component and is formed on at least one surface of the plastic film. A specific gravity of the thin film is 55% or more and 100% or less of a specific gravity of the oxide in the form of a crystal generally present at room temperature and under atmospheric pressure. Thus, the invention provides a gas barrier film having an excellent gas barrier and retort properties and bending resistance; a gas barrier film suitably used in a wrapping material for dried food, liquid food or food containing liquids, frozen food and retort food; a gas barrier film that can be used in an electronic oven, can be sterilized by micro waves and can contain a free-oxygen absorber; a gas barrier film suitably used in a paper carton, a tube, a lid and the like; and a gas barrier film suitably used for cutting off gas for industrial use.

EP 0 812 779 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 97 10 8878

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	KÜBLER: "Properties of Al ₂ O ₃ thin films prepared by ion-assisted evaporation" THIN SOLID FILMS., vol. 199, no. 2, 15 April 1991, LAUSANNE CH, pages 247-257, XP000201594 *Pages 249-250, Section 3.1*	1-7	B65D65/42 B32B27/00 C23C14/08 C23C14/10
Y	EP 0 460 796 A (DU PONT DE NEMOURS) * page 9, line 37 - line 39; claim 1 *	1,3-7	
Y,D	US 3 442 686 A (JONES) * claims 1,3; examples 3,14 *	1,2	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			C23C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12 November 1997	Examiner Patterson, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)